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PATENT CASE: IN01174

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Application of: :
 Zhu et al. :
 :
For Patent For: : Examiner: To Be Assigned
 DIARYL PEPTIDES AS NS3-SERINE :
 PROTEASE INHIBITORS OF HEPATITIS : Date: 06/04/2003
 C VIRUS :
 :
Serial No.: **10/013,071** : Art Unit: 1614
 :
Filing Date: **12/10/2001** :
-----X

Schering-Plough Corporation
Kenilworth, New Jersey 07033-0530

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

It is requested that the document listed on the accompanying PTO-1449 Form be considered and made of record in the above-identified patent application. A copy of the cited document is attached.

A copy of the PCT International Search Report dated October 12, 2001 for corresponding PCT Application No. PCT/US01/47383 is submitted for the Examiner's review.

No fee is believed to be due, however, if any fee is due the Commissioner is authorized to charge Deposit Account Number 19-0365 for any fees deemed necessary for consideration and entry of this Information Disclosure Statement into the file record.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

on June 4, 2003

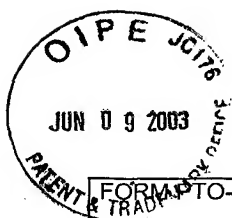
Palaiyur S. Kalyanaraman
Registered Representative

Signature

6/4/2003
Date

Respectfully submitted,

Palaiyur S. Kalyanaraman
Reg. No. 34,634
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Sheet 1 of 1

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.:

IN01174

SERIAL NO.:

10/013,071

INFORMATION DISCLOSURE STATEMENT
BY APPLICANT

(Use several sheets if necessary)

APPLICANT:

Zhu et al.

FILING DATE:

12/10/2001

GROUP:

1614

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES	NO
	AL						
	AM						
	AN						
	AO						
	AP						

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AQ	Llinas-Brunet et al.: "Studies on the C-Terminal of Hexapeptide Inhibitors of the Hepatitis C Virus Serine Protease" <i>Bioorganic & Medicinal Chemistry Letters</i> , Oxford, GB, 8(19):2719-2724 (1998)
AR	
AS	
AT	
AU	
AV	

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

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Applicant's or agent's file reference IN01174	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 01/ 47383	International filing date (day/month/year) 10/12/2001	(Earliest) Priority Date (day/month/year) 12/12/2000
Applicant SCHERING CORPORATION		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

Interr. Application No
PCT/US 01/47383

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/81 C07K5/08 A61K38/06 A61P31/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 17679 A (DEININGER DAVID D ;MURCKO MARK A (US); VERTEX PHARMA (US); FARMER) 30 April 1998 (1998-04-30)	29-94
A	claims 1,35; examples 78-80,101-123; tables 2-4	1-28
E	WO 02 08187 A (SCHERING CORP ;CORVAS INT INC (US)) 31 January 2002 (2002-01-31) claim 1; example 20; table 2	29-59
E	WO 02 08244 A (SCHERING CORP ;CORVAS INT INC (US)) 31 January 2002 (2002-01-31) claim 1; example 716; table 5	60-94
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

13 December 2002

Date of mailing of the international search report

31/01/2003

Name and mailing address of the ISA

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Authorized officer

Fausti, S

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/47383

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>LLINAS-BRUNET ET AL: "Studies on the C-terminal of hexapeptide inhibitors of the hepatitis C virus serine protease" BIOORGANIC & MEDICINAL CHEMISTRY LETTERS, OXFORD, GB, vol. 8, no. 19, 6 October 1998 (1998-10-06), pages 2719-2724, XP002199470 ISSN: 0960-894X abstract; table 1</p> <p>-----</p>	1-94

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 24,25,55,56,88,89 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.1

Claims Nos.: 24,25,55,56,88,89

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/47383

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 24, 25, 55, 56, 88, 89
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERN. ONAL SEARCH REPORT

Information on patent family members

Inter. nal Application No

PCT/US 01/47383

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9817679	A	30-04-1998	AP 1019 A	16-10-2001
			AT 212037 T	15-02-2002
			AU 719984 B2	18-05-2000
			AU 5147798 A	15-05-1998
			BG 103392 A	31-01-2000
			BR 9712544 A	19-10-1999
			CN 1238780 A	15-12-1999
			CZ 9901340 A3	11-08-1999
			DE 69709671 D1	21-02-2002
			DE 69709671 T2	22-08-2002
			DK 932617 T3	22-04-2002
			EA 1915 B1	22-10-2001
			EE 9900161 A	15-12-1999
			EP 1136498 A1	26-09-2001
			EP 0932617 A1	04-08-1999
			ES 2169880 T3	16-07-2002
			HU 0000152 A2	28-07-2000
			JP 2001502694 T	27-02-2001
			KR 2000049263 A	25-07-2000
			NO 991832 A	17-06-1999
			NZ 335276 A	29-09-2000
			PL 332872 A1	25-10-1999
			PT 932617 T	28-06-2002
			SI 932617 T1	30-06-2002
			SK 51099 A3	10-04-2000
			TR 9901602 T2	21-10-1999
			WO 9817679 A1	30-04-1998
			US 6265380 B1	24-07-2001
			US 2002032175 A1	14-03-2002
			ZA 9709327 A	11-05-1998
WO 0208187	A	31-01-2002	AU 8063701 A	05-02-2002
			WO 0208187 A1	31-01-2002
			US 2002160962 A1	31-10-2002
WO 0208244	A	31-01-2002	AU 7698801 A	05-02-2002
			WO 0208244 A2	31-01-2002